

WHAT IS CLAIMED IS:

1. A method for manufacturing a disk substrate for mass production of a phase change optical disk, wherein the disk substrate is provided with a pit having a first depth and a groove having a second depth allocated in an outer circumference area of the pit, the method comprising the steps of:

coating photoresist on a surface of a glass substrate so as to form a resist layer on the glass substrate;

etching the surface of the resist layer in atmosphere mixed with Argon and Oxygen in ratio of 10 to 90% under gas pressure of 0.1 to 1.5 Pa, wherein a pit having a first depth and a groove having a second depth are formed on the surface of the resist layer;

forming a depression having a first and a second depth by cutting laser to be exposed on the surface of the resist layer;

etching the depression having the first depth and the second depth from the surface of the resist layer of the disk substrate in atmosphere mixed with Argon and Oxygen in voluminal ratio of 10 to 90% under gas pressure of 0.1 to 1.5 Pa, wherein the first and the second depth of the depression become predetermined value respectively; and

ashing the resist layer from the glass substrate.

2. A disk substrate for manufacturing a phase change optical disk in mass production, wherein the disk substrate is having a resist layer applied on a glass substrate, manufactured by etching the surface of the resist layer of the disk substrate in atmosphere mixed with Argon and Oxygen in ratio of 10 to 90% under gas pressure of 0.1 to 1.5 Pa, comprising:

a pit area having a first depth in a pit area

contiguous to the end portion of a read-in area formed in the inner circumference of the disk;

a groove area having a second depth in a data area subsequent to the read-in area; and

a layer at least composed of a dielectric layer, an intermediate layer, a recording layer, a reflection layer and a protection layer.

3. The disk substrate as claimed in claim 2, wherein the pit area is at least recorded with an administrative information including a copyright identification for data information to be recorded in such the disk substrate.

4. A disk manufactured by a disk plate manufactured through the steps of:

coating photo-resist on a surface of a glass substrate so as to form a resist layer;

etching the surface of the resist layer on the glass substrate in atmosphere mixed with Argon and Oxygen in ratio of 10 to 90% under gas pressure of 0.1 to 1.5 Pa, wherein a pit having a first depth and a groove having a second depth are formed on the surface of the resist layer;

forming a depression having a first and a second depth by cutting laser to be exposed on the surface of the resist layer;

etching the depression having the first depth and the second depth from the surface of the resist layer of the disk plate in atmosphere mixed with Argon and Oxygen in voluminal ratio of 10 to 90% under gas pressure of 0.1 to 1.5 Pa, wherein the first and the second depth of the depression become predetermined value respectively; and

ashing the resist layer from the glass substrate, the disc further comprising:

a pit area having a first depth in a pit area contiguous to the end portion of a read-in area formed in the inner circumference of the disk;

a groove area having a second depth in a data area subsequent to the read-in area; and

a layer at least composed of a dielectric layer, an intermediate layer, a recording layer, a reflection layer and a protection layer.

5. The disk as claimed in claim 4, wherein the pit area is at least recorded with an administrative information including a copyright identification for data information to be recorded in such the disk substrate.